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Marilyn Neimark

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HOW TO USE CONTENT ANALYSIS IN HISTORICAL RESEARCH

by

Marilyn Neimark

Baruch College—The City University of New York

This paper illustrates the use of a content analysis in historical research. The purpose of a content analysis study is to illustrate the ways in which an individual organization participates in the processes of social change.

A business organization is viewed as both a product and a creator of its socio-historical environment. The overlap emphasizes the extent to which the organization comprises part of the environment as well as the extent to which the environment permeates and constitutes the organization. As individual firms strive to construct more profitable conditions for themselves, they introduce technological, social and organizational innovations that, if they are successful, are adopted by other firms and collectively transform the context in which the firms are situated, and hence their own existence as well. Although intended as resolutions to previously experienced constraints to continued capital accumulation, these innovations also introduce a number of contradictions into the social system that subsequently appear as new impediments that threaten both the reproduction of individual firms and ultimately that of the broader social system as well. These impediments are experienced by individual firms as a fall in the rate of profit and insufficient effective demand in relation to productive capacity, and provide the motive force for a new round of innovations. It is the dynamic and dialectical interplay of impediments to capital accumulation and resolutions of these impediments that describe the processes of social change examined in the study.

An example of these processes is provided by assembly line methods of production. The assembly line was a significant technological innovation and "the best-known symbol of modern mass production" (Chandler, 1977, p. 208). It increased management's control over the means of production and the work force by providing unambiguous direction as to what operation each worker was to perform next; and by establishing the pace at which the worker was to perform each task (Edwards, 1979, p. 118). On the other hand, the new technology, which represented a structural resolution of increasing labor conflict at the turn-of-the-century, raised that conflict from the individual workplace to the plant-wide level and facilitated the development of industrial unions: "when the line stopped every worker necessarily joined the strike" (ibid). The resolution of this new dimension of labor-management conflict was the post-WWII collective bargaining agreement in which management traded-off higher wages and benefits for the unions' agreement to accept the sanctity of management rights over pricing and the organization of the work process, bureaucratic grievance procedures that effectively removed disputes from the shop floor and limitations on the right to strike (Sloan, 1964). The inflationary bias inherent in these agreements and the relatively rigid internal plant structures they institutionalized emerged as new impediments to capital accumulation in the 1970s.

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The Content Analysis: Selection of General Motors (GM)

This model of social change was studied through a content analysis of sixty-one years of GM's annual reports. GM was chosen for this study because of the importance of the automobile industry for the social and economic development of the U.S. during the 20th century, and because of GM's dominant position both in the automobile industry and in the U.S. economy for much of this period.^{1 2}

Although at first glance annual reports may appear to be an idiosyncratic choice for a data base for such a study, they are in fact, ideally suited for several reasons. In the first place, because annual reports are produced every year, they assure full coverage of a lengthy period. Furthermore, with the exception of the required financial statements, the contents and format of the annual report are not pre-determined, but represent what the top management of the organization chooses to communicate to its shareholders and the public. The annual report can thereby provide insights into the issue and social relations that management regards as important and/or problematic. It also furnished us with the construction of these issues and relationships that management chooses to present to the world. Because annual reports are temporally produced, they offer a snapshot of management's mind-set at each point in time, before they have had time to reflect on or fully digest the events they are describing or trying to influence.³

The study traces the appearance in GM's annual reports of ten dialectical themes. These themes correspond to a number of areas in which the technological, social, organizational and ideological innovations that are widely regarded as being characteristic of the period from 1916 through 1976 took place. The ten themes, which are summarized in figure 1, are described as dialectical to emphasize the dynamic interaction of resolutions and impediments to capital accumulation that characterize social change. It should be emphasized that the themes are neither independent nor mutually exclusive. Rather they are linked synchronously and diachronously by a network of interrelationships.

The sixty-one years covered by the study enables us to compare GM's messages with regard to each of the themes under changing economic, political, and social circumstances, and thus to explore the dynamic and dialectical relationship between GM and its environment. Specifically, by tracing the frequency with which each theme is mentioned and the way it is treated in GM's annual reports, the study illustrates both: (1) The manner in which the

changing character of social conflict and cycles of capital accumulation were experienced by GM over sixty-one years; and (2) The part played by GM in changing the character of social conflict and transforming the process of accumulation over this period.

Research Design

Figure 2 summarizes the study's overall design. In the study, the theoretical concepts in the figure (impediments and resolutions) are linked to the observational variables (subjects in the annual reports) through the ten dialectical themes. Selecting these themes and making the assignment of observational variables to each of them was largely an inductive process and a matter of judgment.

The data (observational) variables were selected primarily to provide coverage and redundancy in relation to the dialectical themes. Redundancy (or duplication) between data variables ensures that substitutes are available. Coverage involves ensuring that all dimensions implied by a theoretical variable are represented in the set of data variables (Tinker, 1975, p. 162). A list of some of the dialectical themes (such as state intervention) and their corresponding operational variables is provided in the appendix.

The appearance of an observational variable in an annual report was measured by the space devoted to it (i.e., by counting the number of characters in a line of text discussing the subject or by counting the number of textual characters that would fit into the photograph or exhibit that addresses the subject). The number of characters were then summed to a character count for each dialectical theme per annual report. In addition, an index was constructed by annual report for each dialectical theme. i.e.:

$$\frac{c_{it}}{c_t} \times 100 = \text{index}_{it}$$

where c_{it} = character count for theme i in year t . The index adjusts for the changing lengths of the annual reports over time and allows us to examine changes in the relative importance of a theme over the years.

The frequency of appearance of each theme was illustrated graphically by pairs of figures (e.g. figures 3 and 4 on the following pages illustrate the frequency of discussions regarding various aspects of state intervention). Figure 3 charts the index. Figure 4 charts the raw character count. The index indicates the relative importance of the theme to a particular year's annual report. By tracing the changes in the index one can see the waxing and waning of the theme relative to other topics that were discussed in the annual report in each year. The raw character count enables one to trace the changes in the space

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devoted to a theme over time relative to itself. But these changes were not merely charted in the study. Rather, the study situated GM's treatment of each theme in its broader social and historical context to illustrate to the reader the relationship between these thematic changes and the changing character of social conflict and the cycles of capital accumulation, and to illustrate the part played by GM in the broader processes of social change. For example, an explanation would be necessary as why GM commented so heavily on state intervention during the World War II years.

Limitations of the Research Design

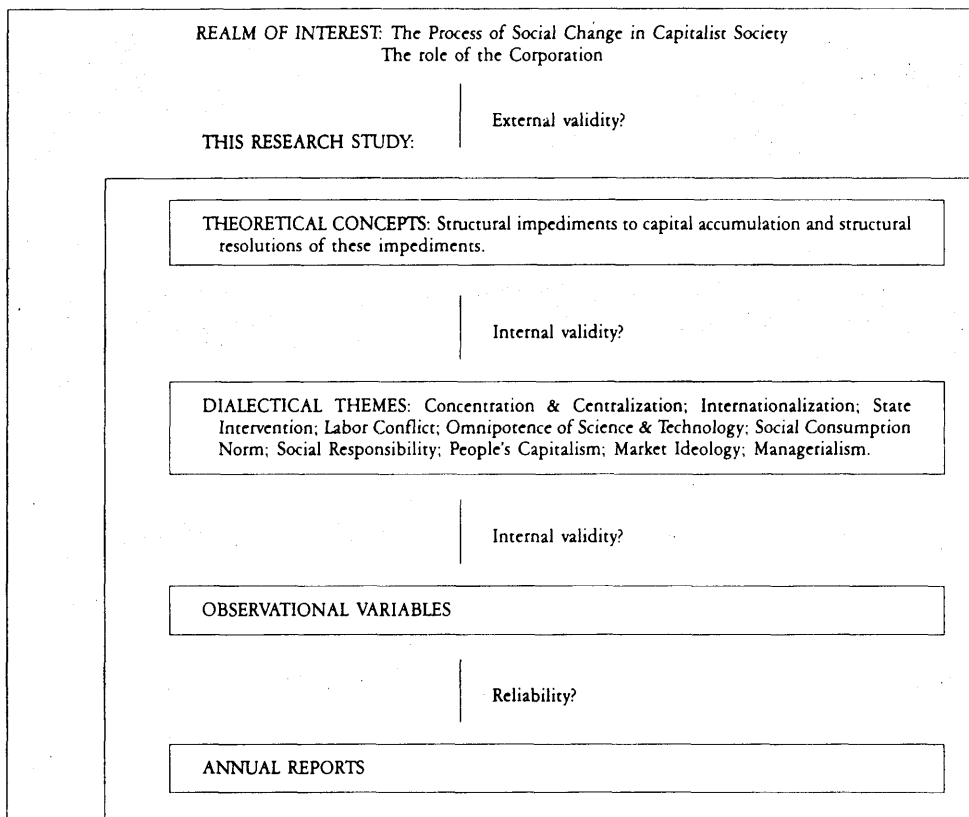
The arrows between each level in figure 2 raise a series of questions about the validity and reliability of the study's research design. The first set of questions involve the study's internal validity and essentially reduce to questions about the validity of the study's implicit measurement model. A measurement model relates a study's abstract-theoretical concepts (in this case the structural impediments and resolutions) to its concrete-observational concepts (the dialectical themes and their observational correspondents) through rules of correspondence (Firestone and Chadwick, 1975, p. 35). In this study, questions of internal validity are raised at each stage of the linkage

Figure 1
Dialectical Themes as Structural Impediments and Resolutions

Dialectical Theme	As a Structural Resolutions Of Impediments Arising From:	As A Structural Impediment Results In:
Concentration & Centralization of Capital (Domestic).	Economies of scale and Market saturation.	Legitimation issues leading to state intervention.
Internationalization of Production and Distribution	High organic composition of capital. Economies of scale and market saturation. High labor costs, and/or labor conflict. Protectionist policies of other nations.	Weakening of the nation state. Legitimation issues leading to state intervention. Impoverishment of work force in developing countries limits effective demand and increases social tensions. Synchronization of business cycles worldwide. Weakening of MNC's domestic economies.
Labor Conflict	Craft-worker control over methods & pace of production. Labor militancy and corporate vulnerability to strikes and job actions.	Plant-wide vulnerability to strikes & job actions. Worker alienation (low productivity; high absenteeism) Rigid job structures. Lack of control over wages and benefits. Inflation.
State Intervention	Realization (i.e., under-consumption) crisis. Intra and inter-class conflict. Social costs of production.	Weakening of the state: inability to fund essential programs; and inability to develop & implement necessary policies.
Social Consumption Norm	Realization (i.e., under-consumption) crisis.	Increase in expectations regarding the quality of life leads to legitimation demands and increases the fiscal crisis of the state.
Ideology of the Market Omnipotence of Science & Technology	Ideologies are solutions to impediments posed by potential disruptions to the maintenance of social order and to the continuation of the private appropriation of the social surplus under existing terms for its disposition and division.	Rising expectations. Divergences between the appearance suggested by the ideology and the underlying structure lead to legitimation demands.
Managerialism Corporate Social Responsibility People's Capitalism		

Continued

Figure 2
Research Design



between the theoretical concepts and the observational variables. Consider, for example, the correspondence between the theoretical concepts and the ten dialectical themes. Do the latter present a comprehensive picture of the structural impediments to capital accumulation and the structural solutions to these impediments in each year covered by the study? For example, is their coverage adequate? If so, are they specified at a sufficient level of detail? As noted previously, the dialectical variables are neither independent nor mutually exclusive. Similar questions can be raised about the correspondence between the observational variables and the dialectical themes. Related to the latter are a number of additional questions about the measurements used in the study. For example, do measurements of the space devoted to a message and the form of the message (e.g., text, photographs, graph) and its location in the report (e.g., main body, supplementary section, cover) reflect the relative importance of the message in the annual report, and if so, in what ways? Or can the types of

message and their placement be weighted equally (as they have been here)? Finally, does the appearance of a message in an annual report (whatever its length, form or location) reflect its importance to management or what management wants to communicate to the public in general (i.e., beyond the audience of annual report readers)? These are all important questions but ones to which no answers are readily available. Clearly, very real and unresolved measurement modeling problems exist in a content analysis study—as they do in virtually all social science research (Firestone and Chadwick, 1975, p. 36). These questions must be raised in studies such as this so that the reader is not misled as to the precision of the results that are presented.

The conduct of an empirical study also raises questions of reliability (the arrow between the Observational Variables and the Annual Reports in figure 2). For example, if more than one rater is used to code the annual reports, will their results be

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FIGURE 3
STATE INTERVENTION INDEX

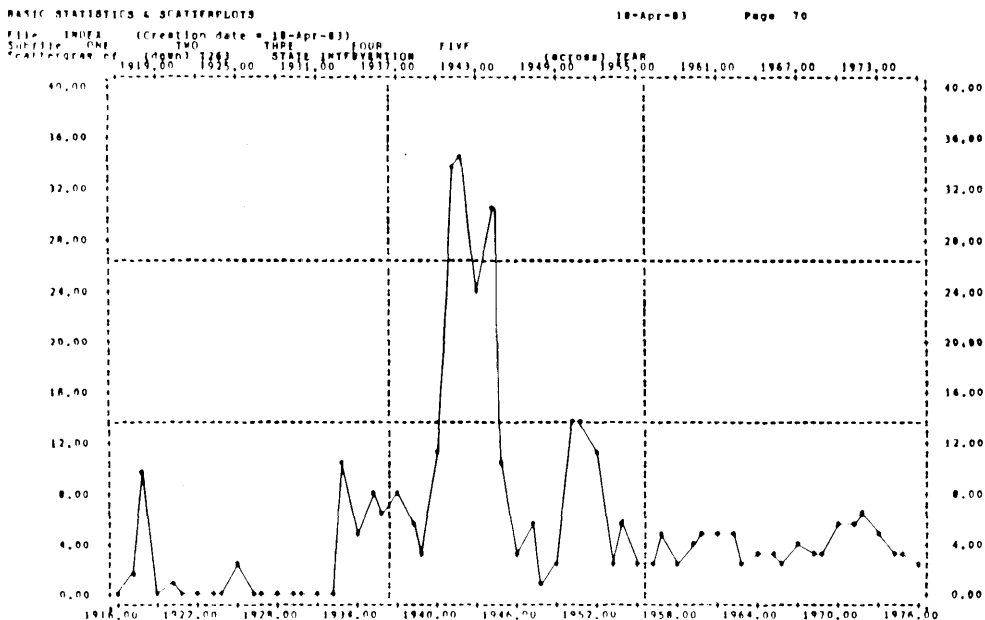
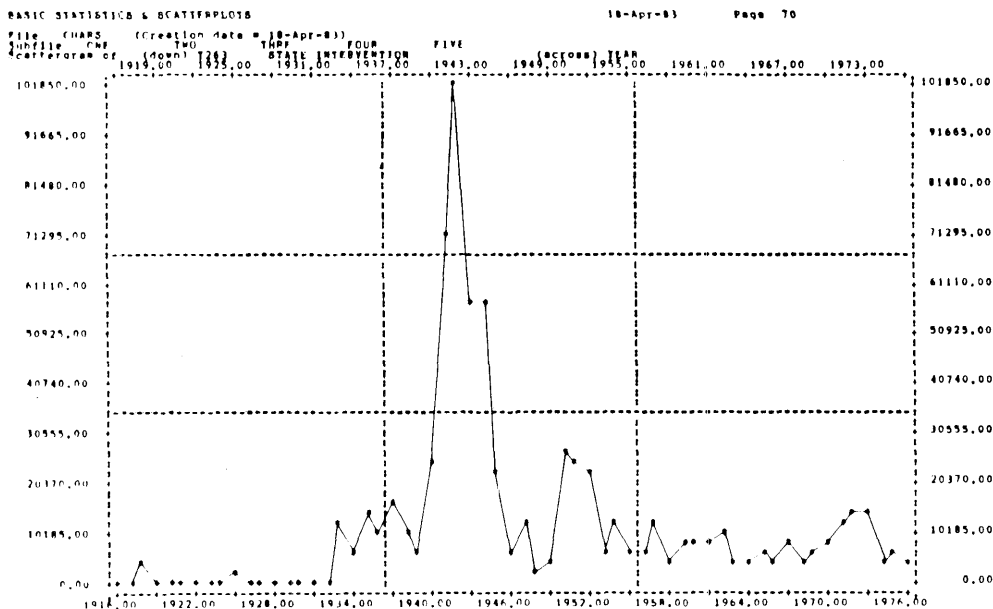


FIGURE 4
STATE INTERVENTION CHARACTER COUNT



consistent? In this case, the reports were coded by a single researcher which reduced (but did not eliminate) the likelihood of internal inconsistencies. But this still leaves unexamined the question of rater intersubjectivity i.e., would other researchers, examining the same annual reports code them in the same way? Although tests of the intersubjectivity of the coding scheme were not conducted in this study, they are clearly important for assessing its reliability.

Finally, there is the question of the study's external validity. To what extent is such a study taken as a whole generalizable to the realm of interest it addresses: i.e., to the processes of social change in capitalist society and to the role of the corporation in this process? This question remains unresolved, although the importance of the automobile industry and GM within it throughout the period covered by the study suggests the likelihood of some generalizability.

FOOTNOTES

¹Some recent statistics illustrate the importance of the automobile industry to the U.S. economy. According to the Commerce Department's input-output tables, the motor vehicle industry accounts for one-third of all textile demand, one-third of all non-ferrous metal manufacturers and nearly 15% of primary iron and steel consumption (*The Wall Street Journal*, Feb. 28, 1983). The 1975 issue of *Facts and Figures of the Automobile Industry* published by the Automobile Manufacturer's Association) estimated that approximately 17% of the U.S. labor force was employed in jobs related to the manufacture, distribution, service and commercial use of motor vehicles. And the 1973 *U.S. Statistical Abstract* reported that 11.7% of consumer spending was on new and used vehicles and their operations.

²GM has dominated the world automobile industry since the early 1930s when it replaced Ford as the number one automobile company. GM held the number one position on the Fortune 500 listing from its inception in 1955 until 1974. (Since then the company has been in the number 1, 2 and 3 positions.) GM's sales revenues exceed the GNP and/or GDP of many countries. For example, in 1979 the company's sales revenue of \$66.3 billion exceeded the GDP of Denmark, South Africa, Norway, Greece, Philippines, Thailand, Pakistan, Peru, Kenya, Ecuador, Bolivia, Panama among others.

³This description is not intended to imply that annual reports are not prepared with care and forethought. But the preparers of the annual report do not have the benefit of hindsight nor an extended period of reflection and are caught up in the ambiance and ideologies of their time.

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Appendix appears on next page

PENSION ACCOUNTING HISTORY NEEDED

Anyone who is presently searching for a new research project to undertake might be interested in pursuing the topic of pension accounting history. The FASB is currently studying the problems of accounting for pensions and the research staff would like to see additional material on early ways of accounting for pensions. Tim Lucas of the FASB says that the staff at Stamford would be willing to make available copies of the materials that are already available. Naturally, the FASB staff is familiar with what has happened since the promulgation of APB Opinion No. 8. However, any information regarding how the APB came up with Opinion No. 8 would be welcomed, as would anything pertaining to pension accounting in earlier years. Historic ways of accounting for pensions in other countries would also be of interest to the staff. If anyone has any materials available, or would like to see what the FASB has available, the contact person is: Tim Lucas, Financial Accounting Standards Board, High Ridge Park, Stamford, CT 06905 USA.

APPENDIX
DIALECTICAL THEMES AND CORRESPONDING OBSERVATIONAL VARIABLES

Themes	Observational Variables
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1. State intervention

Refers to the collection of state activities that support, complement and promote the accumulation of capital by private business interests (Herman, 1981, p. 166). In addition to activities that directly support capital accumulation (i.e., state activities that increase the productivity of a given amount of labor power through spending on physical or human capital and by promoting profitable private accumulation by lowering the reproduction costs of labor). State intervention also refers to activities that fulfill the state's legitimation function and only indirectly support capital accumulation by maintaining social harmony.

Military Spending:

GM's participation in the national defense program (i.e., war); conversion of facilities for national defense (i.e., war time) production; importance of peacetime preparedness, military-industrial cooperation, joint civilian-defense production facilities; linkage between defense spending and economic stimulus; defense production, profits, sales and investment in PP&E; and training military personnel.

Taxes & Capital Investment incentives:

Social Conflict:

Regulation of prices labor and wages, materials usage, output; monetary and fiscal policy; inflation as a problem of government policy (e.g., fiscal, tax and/or credit policy); need for government to promote savings; and government sponsored social consumption (e.g., social security, unemployment insurance, workman's compensation).

Social Costs of Production:

Government policies, investigations, and regulations concerning automobile safety, air and water pollution (industrial pollution), automobile emissions, energy and fuel consumption, occupational health and safety, non-discriminatory employment practices.

Physical Infrastructure:

Government policies, investigations, regulations concerning mass transit, transportation, urban renewal, and highways.

Anti-trust:

Government antitrust policies, investigations and lawsuits; other litigation.

Welfare Capitalism:

Housing, health and life insurance, bonuses, stock purchase plans and savings plans. GM's steps to ensure, and their concerns about, facilities and services provided for the health and safety of employees on the job. Labor militancy; collective bargaining.

2. Labor conflict

Refers to actions that address the social conflict between, and the relative strengths of capital and labor (e.g., Technical control systems, the collective bargaining compromise, and bureaucratic control systems) (Edwards, 1979).

Automobile as a necessity to the American way of life; product and lifestyle (family leisure, upward mobility, annual model change); available features on products; performance (e.g., driving ease, riding comfort); Motorama, advertising, selling efforts, promotion, design and styling; and product line (philosophy, description of products).

3. Social consumption norm

Refers to the development of a social orientation to career, leisure and consumption, corresponding to what Habermas (1973, p. 75) refers to as familial-vocational-privatism, i.e., "a family orientation with developed interests in consumption and leisure on the one hand, and a career orientation suitable to status competition on the other." The development of the social consumption norm is a structural response to the realization crisis that began to emerge in the 1920s and has been described by Baran and Sweezy (1966, p. 128) as "a relentless war against saving and in favor of consumption" that was principally carried out by inducing changes in fashion, creating new wants, setting new standards of status, and enforcing new norms of propriety. Also integral to this ideology is the substitution of consumption and consumer choice for social conflict and political participation.

4. Social responsibility

Refers to the view that the corporation is responsible for the consequences of its action (or inactions) to constituencies that extend beyond its legal owners (e.g., to its employees, customers, suppliers, the communities in which it operates, the less advantaged, such as women or minorities, the public in general), whether or not these responsibilities are required by law.

Dealers and Dealer Relations:

Customers; Environment; Minorities and Women.